

*Annual*  
**WATER**  
**QUALITY**  
**REPORT**  
*Reporting Year 2013*



*Presented By*



PWS ID#: CA2310003

Este informe contiene información muy importante sobre su agua potable. Tradúzcalo o hable con alguien que lo entienda bien.

## 2013 Executive Summary

The City of Ukiah, Public Works Department, Water Division, is responsible for providing water to over 5,000 connections. The water that we produce continues to consistently meet and exceed both State and Federal Standards for drinking water. The Water Division's ability to achieve this high standard is due to the ongoing monitoring our staff performs on the excellent sources of water available to the City of Ukiah.

The Water Division is currently developing a new groundwater well for our customers. This well development is in response to the drought situation of 2014 and will also benefit our rate payers by providing a more cost effective and reliable water source.

Throughout 2013, the Water Distribution Division made numerous repairs and upgrades to an aging distribution system. In doing this work, the Distribution Division has helped to ensure a safe and sustainable means of delivering drinking water throughout the City of Ukiah. The Distribution Division's hard work and support of the Water Division continues to be instrumental in providing exceptional drinking water to the community.

## Where Does My Water Come From?

The City of Ukiah supplies its customers with water that is considered underflow from the Russian River as well as four groundwater sources. The amounts of water delivered from each source and when they are used, is dependent on both the demand on the system and the time of year. There are times of emergency when the City may have to purchase water from our neighboring water systems. These systems are Millview County Water District and Willow County Water District.

## Important Health Information

Some people may be more vulnerable to contaminants in drinking water than the general population. Immunocompromised persons such as persons with cancer undergoing chemotherapy, persons who have undergone organ transplants, people with HIV/AIDS or other immune system disorders, some elderly, and infants may be particularly at risk from infections. These people should seek advice about drinking water from their health care providers. The U.S. EPA/CDC (Centers for Disease Control and Prevention) guidelines on appropriate means to lessen the risk of infection by *Cryptosporidium* and other microbial contaminants are available from the Safe Drinking Water Hotline at (800) 426-4791 or <http://water.epa.gov/drink/hotline>.

## Substances That Could Be in Water

The sources of drinking water (both tap water and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs, and wells. As water travels over the surface of the land or through the ground, it dissolves naturally occurring minerals and, in some cases, radioactive material, and can pick up substances resulting from the presence of animals or from human activity.

In order to ensure that tap water is safe to drink, the U.S. Environmental Protection Agency (U.S. EPA) and the California Department of Public Health (Department) prescribe regulations that limit the amount of certain contaminants in water provided by public water systems. Department regulations also establish limits for contaminants in bottled water that must provide the same protection for public health. Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of contaminants does not necessarily indicate that water poses a health risk.

Contaminants that may be present in source water include:

**Microbial Contaminants**, such as viruses and bacteria, that may come from sewage treatment plants, septic systems, agricultural livestock operations, and wildlife;

**Inorganic Contaminants**, such as salts and metals, that can be naturally occurring or can result from urban stormwater runoff, industrial or domestic wastewater discharges, oil and gas production, mining, or farming;

**Pesticides and Herbicides**, that may come from a variety of sources such as agriculture, urban stormwater runoff, and residential uses;

**Organic Chemical Contaminants**, including synthetic and volatile organic chemicals, that are by-products of industrial processes and petroleum production and that can also come from gas stations, urban stormwater runoff, agricultural applications, and septic systems;

**Radioactive Contaminants**, that can be naturally occurring or can be the result of oil and gas production and mining activities.

More information about contaminants and potential health effects can be obtained by calling the U.S. EPA's Safe Drinking Water Hotline at (800) 426-4791.

## Community Participation

Regularly scheduled Ukiah City Council meetings convene on the first and third Wednesdays of each month at 6 p.m. at the Ukiah Civic Center, 300 Seminary Avenue, Ukiah, CA. These meetings provide citizens with the opportunity to express concerns regarding the City's drinking water.

## Source Water Assessment

In June of 2001, the City of Ukiah completed a Source Water Assessment. This study considered the topography, type of vegetative cover, soil type, type of animal life, and climate conditions of our watershed. Combined with human-related recreation, industry, and life style, several areas were considered to have influence on our raw waters. The influence was considered to be minimal and several areas of concern have been mitigated. These include the closing of the landfill, the replacement of leaking underground storage tanks, and bulk fuel containment. The City of Ukiah is continually upgrading its system and monitors for a variety of possible hazards. The City of Ukiah's water is still considered safe and reliable. The summary from that report is as follows.

### Vulnerability Summary

According to the results of the vulnerability analysis, the surface water source is considered most vulnerable (vulnerability score\* of 15) to the following activities not associated with any detected contaminants:

- Gas stations
- Plastic synthetic producers
- Historic gas stations
- Historic waste dumps/landfills
- Historic mining operations
- Confirmed leaking tanks
- Wastewater treatment and disposal facilities
- Managed forests
- Septic systems – high density (>1/acre)
- Chemical/petroleum processing/storage

## QUESTIONS?

For more information about this report, or for any questions relating to your drinking water, please call Shelly Whyburn, Senior Water Treatment Plant Operator/Mechanic, at (707) 467-2842.

The above list of the PCAs includes several activities that can contaminate the drinking water source by releasing deleterious chemicals. Therefore, this list corroborates the conclusion in the 2001 Update Report of Watershed Sanitary Update (page 3): "The greatest potential threat of drinking water quality is that of a spill of deleterious material (e.g., petroleum products, hazardous or toxic substances) that could enter Lake Mendocino or the Russian River. The potential threat is great because the water treatment systems used by the City of Ukiah, the RVCWD, and the MCWD were not designed to remove these types of substances."

Further, the comparison of the above list of PCAs and that of "potential contaminant sources" delineated in the 2001 Update Report (page 2) shows that some activities appear in both lists: (1) wastewater treatment and (disposal) facilities, (2) septic systems – high density, and (3) releases from industrial activities. The category of "releases from industrial activities" in the 2001 Update Report list encompasses some specific activities in the PCAs list, including gas stations, historic gas stations, confirmed leaking tanks, plastic synthetic producers, and chemical/petroleum processing/storage. Other activities in the 2001 Update Report list that also ranked high in the Vulnerability Score include septic systems – low density (vulnerability score of 13), grazing animals (13), non-body and body contact recreation (13), spills from traffic or railroad accidents (11), and pesticide/herbicide use in agriculture (11).

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\*The drinking water source is considered Vulnerable to all PCAs with Vulnerability Score greater than or equal to 11 (California Drinking Water Source Assessment and Protection Program). The apparent discrepancies between the two lists, such as managed forests, historic mining operations, and historic waste dumps/landfills, may be attributable to the fact that surface protection zones were not established in this assessment.

## What's Your Water Footprint?

**Y**ou may have some understanding about your carbon footprint, but how much do you know about your water footprint? The water footprint of an individual, community, or business is defined as the total volume of freshwater that is used to produce the goods and services that are consumed by the individual or community or produced by the business. For example, 11 gallons of water are needed to irrigate and wash the fruit in one half-gallon container of orange juice. Thirty-seven gallons of water are used to grow, produce, package, and ship the beans in that morning cup of coffee. Two hundred and sixty-four gallons of water are required to produce one quart of milk, and 4,200 gallons of water are required to produce two pounds of beef.

According to the U.S. EPA, the average American uses over 180 gallons of water daily. In fact, in the developed world, one flush of a toilet uses as much water as the average person in the developing world allocates for an entire day's cooking, washing, cleaning, and drinking. The annual American per capita water footprint is about 8,000 cubic feet, twice the global per capita average. With water use increasing six-fold in the past century, our demands for freshwater are rapidly outstripping what the planet can replenish.

To check out your own water footprint, go to [www.h2oconserve.org](http://www.h2oconserve.org) or visit [www.waterfootprint.org](http://www.waterfootprint.org) to see how the water footprints of other nations compare.

## Lead in Home Plumbing

**I**f present, elevated levels of lead can cause serious health problems, especially for pregnant women and young children. Lead in drinking water is primarily from materials and components associated with service lines and home plumbing. We are responsible for providing high-quality drinking water, but we cannot control the variety of materials used in plumbing components. When your water has been sitting for several hours, you can minimize the potential for lead exposure by flushing your tap for 30 seconds to 2 minutes before using water for drinking or cooking. If you are concerned about lead in your water, you may wish to have your water tested. Information on lead in drinking water, testing methods, and steps you can take to minimize exposure is available from the Safe Drinking Water Hotline or at [www.epa.gov/safewater/lead](http://www.epa.gov/safewater/lead).



## Sampling Results

During the past year, the City of Ukiah has taken hundreds of water samples in order to determine the presence of any radioactive, biological, inorganic, volatile organic, or synthetic organic contaminants. The tables below show only those contaminants that were detected in the water. The State of California requires the City to monitor for certain substances less often than once per year because the concentrations of these substances do not change frequently. In these cases, the most recent sample data are included, along with the year in which the sample was taken.

REGULATED SUBSTANCES											
				Surface Water		Distribution System		Groundwater			
SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	MCL [MRDL]	PHG (MCLG) [MRDLG]	AMOUNT DETECTED	RANGE LOW-HIGH	AMOUNT DETECTED	RANGE LOW-HIGH	AMOUNT DETECTED	RANGE LOW-HIGH	VIOLATION	TYPICAL SOURCE
Barium (ppm)	2013	1	2	ND	NA	NA	NA	0.017¹	ND–0.1¹	No	Discharges of oil drilling wastes and from metal refineries; erosion of natural deposits
Chlorine (ppm)	2013	[4.0 (as Cl2)]	[4 (as Cl2)]	NA	NA	0.77	0.30–1.74	NA	NA	No	Drinking water disinfectant added for treatment
Fluoride (ppm)	2013	2.0	1	ND	NA	NA	NA	0.092	ND–0.120	No	Erosion of natural deposits; water additive that promotes strong teeth; discharge from fertilizer and aluminum factories
Nitrate [as nitrate] (ppm)	2013	45	45	ND	NA	ND	NA	7.9	6.1–13	No	Runoff and leaching from fertilizer use; leaching from septic tanks and sewage; erosion of natural deposits
Turbidity³ (NTU)	2013	TT	NA	0.083	0.010–0.083	NA	NA	NA	NA	No	Soil runoff
Turbidity (Lowest monthly percent of samples meeting limit)	2013	TT=95% of samples <0.3 NTU	NA	100	NA	NA	NA	NA	NA	No	Soil runoff
Tap water samples were collected for lead and copper analyses from sample sites throughout the community²											
SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	AL	PHG (MCLG)	AMOUNT DETECTED (90TH%TILE)	SITES ABOVE AL/ TOTAL SITES	VIOLATION	TYPICAL SOURCE				
Copper (ppm)	2013	1.3	0.3	0.610	0/31	No	Internal corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives				
Lead (ppb)	2013	15	0.2	2.8	0/31	No	Internal corrosion of household water plumbing systems; discharges from industrial manufacturers; erosion of natural deposits				

SECONDARY SUBSTANCES											
				Surface Water		Distribution System		Groundwater			
SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	SMCL	PHG (MCLG)	AMOUNT DETECTED	RANGE LOW-HIGH	AMOUNT DETECTED	RANGE LOW-HIGH	AMOUNT DETECTED	RANGE LOW-HIGH	VIOLATION	TYPICAL SOURCE
Chloride (ppm)	2013	500	NS	4.2	NA	5.5	NA	8.3	6.8–12	No	Runoff/leaching from natural deposits; seawater influence
Corrosivity (Units)	2013	Noncorrosive	NS	10.5	NA	11.13	NA	11.1	10.3–11.6	No	Natural or industrially influenced balance of hydrogen, carbon, and oxygen in the water; affected by temperature and other factors
Specific Conductance (micromhos)	2013	1,600	NS	210	NA	240	NA	230	200–320	No	Substances that form ions when in water; seawater influence
Sulfate (ppm)	2013	500	NS	9.7	NA	9.7	NA	15	12–32	No	Runoff/leaching from natural deposits; industrial wastes
Total Dissolved Solids (ppm)	2013	1,000	NS	110	NA	140	NA	190	NA	No	Runoff/leaching from natural deposits
Turbidity³ (NTU)	2013	5	NS	NA	NA	0.213	0.097–1.450	0.047	0.020–2.0	No	Soil runoff

UNREGULATED SUBSTANCES									
		Surface Water		Distribution System		Groundwater			
SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	AMOUNT DETECTED	RANGE LOW-HIGH	AMOUNT DETECTED	RANGE LOW-HIGH	AMOUNT DETECTED	RANGE LOW-HIGH		
Bicarbonate (ppm)	2013	100	NA	120	NA	171	150–180		
Calcium (ppm)	2013	16	NA	17	NA	26	21–30		
Magnesium (ppm)	2013	8.8	NA	8.8	NA	15	13–18		
Total Alkalinity (ppm)	2013	84	NA	100	NA	141	120–150		
Total Hardness (ppm)	2013	76	NA	79	NA	130	111–145		
Sodium (ppm)	2013	8.5	NA	16	NA	16	10–21		
TOTAL TRIHALOMETHANES (PPB)	MCL	2012 2ND QTR	2012 3RD QTR	2012 4TH QTR	2013 1ST QTR	2013 2ND QTR	2013 3RD QTR	2013 4TH QTR	SOURCE
Site #1	80	3.4	29.2	17.5	1.3	18.3	15.6	17.4	By-product of drinking water disinfection
Site #2	80	0.0	31.7	8.5	0.0	5.6	7.6	9.6	
Site #3	80	1.9	9.6	13.9	5.1	9.0	30.4	17.1	
Site #4	80	3.2	14.2	20.1	7.3	9.5	26.1	20.8	
Quarterly Average	80	2.1	21.5	15.1	3.4	10.6	19.9	16.2	
Running Annual Average	80	8.8	10.3	10.8	10.5	12.7	12.3	12.5	
TOTAL HALOACETIC ACIDS (PPB)	MCL	2012 2ND QTR	2012 3RD QTR	2012 4TH QTR	2013 1ST QTR	2013 2ND QTR	2013 3RD QTR	2013 4TH QTR	SOURCE
Site #1	80	2.3	11.0	9.5	0.0	5.5	7.8	7.4	By-product of drinking water disinfection
Site #2	80	0.0	7.2	5.6	0.0	0.0	3.6	3.9	
Site #3	80	0.0	11.6	9.0	1.4	0.0	12.7	7.4	
Site #4	80	0.0	10.7	8.6	1.8	0.0	10.1	8.3	
Quarterly Average	80	1.0	10.3	8.2	0.8	1.4	8.6	6.8	
Running Annual Average	80	3.2	4.3	5.2	5.0	5.2	4.7	4.4	

<sup>1</sup>Two groundwater sources were sampled in 2012.

<sup>2</sup>The sample sites used for lead and copper sampling were single family residences that were plumbed with copper pipes and lead solder, installed prior to 1983.

<sup>3</sup>Turbidity is a measure of the cloudiness of the water. We monitor it because it is a good indicator of the effectiveness of our filtration system.

## Definitions

**AL (Regulatory Action Level):** The concentration of a contaminant which, if exceeded, triggers treatment or other requirements that a water system must follow.

**µS/cm (microsiemens per centimeter):** A unit expressing the amount of electrical conductivity of a solution.

**MCL (Maximum Contaminant Level):** The highest level of a contaminant that is allowed in drinking water. Primary MCLs are set as close to the PHGs (or MCLGs) as is economically and technologically feasible. Secondary MCLs (SMCLs) are set to protect the odor, taste and appearance of drinking water.

**MCLG (Maximum Contaminant Level Goal):** The level of a contaminant in drinking water below which there is no known or expected risk to health. MCLGs are set by the U.S. EPA.

**micromhos:** A measure of electrical conductance.

**MRDL (Maximum Residual Disinfectant Level):** The highest level of a disinfectant allowed in drinking water. There is convincing evidence that addition of a disinfectant is necessary for control of microbial contaminants.

**MRDLG (Maximum Residual Disinfectant Level Goal):** The level of a drinking water disinfectant below which there is no known or expected risk to health. MRDLGs do not reflect the benefits of the use of disinfectants to control microbial contaminants.

**NA:** Not applicable

**ND (Not detected):** Indicates that the substance was not found by laboratory analysis.

**NS:** No standard

**NTU (Nephelometric Turbidity Units):** Measurement of the clarity, or turbidity, of water. Turbidity in excess of 5 NTU is just noticeable to the average person.

**PDWS (Primary Drinking Water Standard):** MCLs and MRDLs for contaminants that affect health along with their monitoring and reporting requirements, and water treatment requirements.

**PHG (Public Health Goal):** The level of a contaminant in drinking water below which there is no known or expected risk to health. PHGs are set by the California EPA.

**ppb (parts per billion):** One part substance per billion parts water (or micrograms per liter).

**ppm (parts per million):** One part substance per million parts water (or milligrams per liter).

**TT (Treatment Technique):** A required process intended to reduce the level of a contaminant in drinking water.